VOLUME 5, ISSUE 2 SECOND QUARTER 2011

SAFETY ON SHIPS

Newsletter of the Safety, Occupational Health and Environmental Programs for ships and ashore

MILITARY SEALIFT COMMAND

Safety Award Winners!

The Chief of Naval Operations awarded three safety awards to Military Sealift Command (MSC) ships for 2010. These awards are given annually to ships who demonstrate a commitment to safety and who achieve excellent safety records. USNS FLINT won in the category of Auxiliary, Combat Logistics Force; the USS EMORY S. LAND won in the category of Auxiliary, Special Mission; and the USNS POMEROY won in the category of Auxiliary, Strategic Sealift. In addition to a plaque and a certificate, each ship receives $15,000 to be used to improve the quality of shipboard life.

LCDR Colon and ADM Buzby display the Navy Safety Excellence Award

The EMORY S. LAND was awarded the Secretary of the Navy Safety Excellence Award presented on 07 July 2011, by Secretary of the Navy Ray Mabus.

The USNS POMEROY will be purchasing an air hockey table and bicycles which crew members can use for trips ashore. EMORY S. LAND is planning on refurbishing the ship's gym by adding new equipment and upgrading their fitness room. As of now, FLINT is undecided how to use the money but is planning to spend the money on items that will benefit the majority of the crew.

Senior shipboard personnel have established a safety culture in which all crew member's safety concerns and opinions on safety are valued. All three ships view minor injuries and near misses as opportunities for improvement. Detailed investigations were performed of all incidents and preventive measures were taken to avoid future injuries.

Other ships deserving honorable mention for their excellent safety records and entries include USNS 1st LT. HARRY L. MARTIN, USNS CATAWBA, and USS FRANK CABLE.

Submissions for the 2011 safety awards are due by 15 December 2011. Any ship can submit a package and are encouraged to do so. Certain ships will be selected for nomination based on their safety performance with the final winner being selected from the pool of nominees.

A reminder message will be sent to all vessels in November. Government Owned/ Government Operated (GOGO) vessels can submit entries to MSCHQ_Safety @navy.mil. Contract Operated vessels can submit their entries to their operating company and ask them to be forwarded to the MSC Safety Department at MSCHQ_Safety@navy.mil.

Inside this issue:

Post-Accident Drug and Alcohol Testing

When mishaps occur, the most important thing is to ensure the safety of everyone involved. Once the ship and crew are safe, finding the cause of the mishap can prevent reoccurrence. There is a small window of time to determine if drugs or alcohol played a role in causing a mishap. The Navy and Military Sealift Command (MSC) require drug and alcohol testing for certain incidents.

CIVILIAN MARINE PERSONNEL INSTRUCTION (CMPI)

The U.S. Coast Guard and MSC have a Memorandum of Agreement (MOA), which addresses drug and alcohol testing. Mariners working on government owned/contractor operated vessels will follow the Coast Guard's rules for drug and alcohol testing (46 CFR Part 4). Mariners working on government owned/ government operated vessels (CIVMARs) will follow the Civilian Marine Personnel Instruction (CMPI) 792 for drug testing. For alcohol testing CIVMARS will follow CMPI 790 which directs CIVMARs to follow 46 CFR Part 4.

If a mariner refuses to be tested in a timely manner, he/she will be informed that refusal will be considered failure to follow a direct order and may result in the same range of discipline as a positive test result.

CMPI 792 requires drug testing when a mishap or unsafe practice occurs which results in a death or personal injury requiring hospitalization, or when damages are equal to or above $10,000 has occurred. Drug testing will be arranged immediately after approval from Military Sealift Fleet Support Command (MSFSC).

For CIVMARS and mariners working on government owned/ contractor operated vessels, alcohol testing shall be performed for every serious marine incident (as per 46 CFR Part 4.06-3). Masters may state on Coast Guard Form 2692 in box 44 that through personal observation alcohol testing was not needed. This can only be done if they have completed the training as per 46 CFR 16.401. Alcohol testing of each involved person must be done within two hours of when the incident or mishap occurred unless it will interfere with the preservation of life or the prevention of further damage to property or to the environment. If alcohol testing is not done within two hours based on this, it must be done as soon as possible, but within an eight-hour timeframe from the incident. Any individual that is qualified in the use of the breath-testing device may administer the test. If any of the alcohol testing results are positive it needs to be noted on the Coast Guard form 2692. A blood alcohol level of 0.04% or above will be counted as a positive test and result in the removal of the mariner from the ship. A blood alcohol level of 0.03% or 0.02% is not counted as a positive test, but the mariner will be removed from safety sensitive positions. An alcohol reading of below 0.02% shall be deemed a negative test. When in doubt initiate the testing process. Better safe then sorry.

Heat Acclimation

Summer is upon us and that means dealing with heat stress. MSC ships operate in some of the hottest parts of the world. The physical demands coupled with excessive temperatures can cause heat stress injury and heat related fatalities. Your body builds up heat when you work and sweats to get rid of extra heat, but sometimes your body may not cool off fast enough. New employees joining ships are at a higher than normal risk. Supervisors should monitor workers, and civilian mariners shall follow the heat stress procedure (2.1-008-ALL) in the Safety Management System.

Heat Acclimation is one of the best defenses against heat stress injury and heat related fatalities. Heat Acclimation is achieved by gradually increasing exposure and physical activity in hot weather.

Heat acclimatization occurs when repeated heat exposures are sufficiently stressful to elevate body temperature and provoke perfuse sweating. Resting in the heat, results in only partial acclimatization. Physical exercise in the heat is required to achieve optimal heat acclimatization for that exercise intensity in a given hot environment. Workers who only perform light or brief physical work will achieve the level of heat acclimatization needed to perform that task. If they attempt a more strenuous or prolonged task, additional acclimatization and improved physical fitness will be needed.

Complete heat acclimatization requires up to 14 days with a minimum daily heat exposure of about two hours. The benefits of heat acclimatization will be retained for about 1 week and then decay with about 75 percent lost by about 3 weeks, once heat exposure ends. A day or two of intervening cool weather will not interfere with acclimatization to hot weather.

During acclimatization the systems of the body adapt to heat exposure at varying rates. During the first 5 days an improved control of cardiovascular function occurs. During the first 8 days the body goes through a body core temperature adjustment. During the acclimatization process the body chemistry changes as it learns to conserve minerals normally lost through sweat and urine. Sweating response becomes earlier and greater. Better cooling is achieved as blood flows closer to the skin. Total Benefits of Heat Acclimatization include improved thermal comfort, improved exercise performance, reduced core temperature, earlier and greater sweating, earlier skin blood flow, lower body heat production, lower heart rate, improved thirst, reduced salt loses, and improved organ protection.

Employers should be observant of new workers who may not have had much exposure to the heat and exercise. Also employees who have been moved from a cool environment may need to go through the acclimation process.

- Drink small amounts of water frequently
- Wear light-colored, loose-fitting, breathable clothing
- Take frequent short breaks in cool shade
- Eat smaller meals before work activity
- Avoid caffeine, alcohol and large amounts of sugar
- Work in the shade
- Find out from your health care provider if your medications and heat don't mix
- Know that equipment such as respirator work suits can increase heat stress

From: Brassmein.com

Environmental

USCG Vessel Response Plan Program recently recertified MSC's Integrated Vessel Response Plan (VRP) / Shipboard Oil Pollution Emergency Plan (SOPEP), control numbers: 03723 (Tank) &03724 (Non-Tank). As part of the recertification process, the plans received new control numbers : 14400 for the Non-Tank Plan & 23340 for the Tank plan.

Shipboard Oil Pollution Emergency Plan approval letters:

- Tank Plan # 23340: valid until June 15, 2016
- Non-Tank Plan # 144400 valid until August 4, 2016.

Vessel Response Plan approval letters:

Tank Plan # 23340:

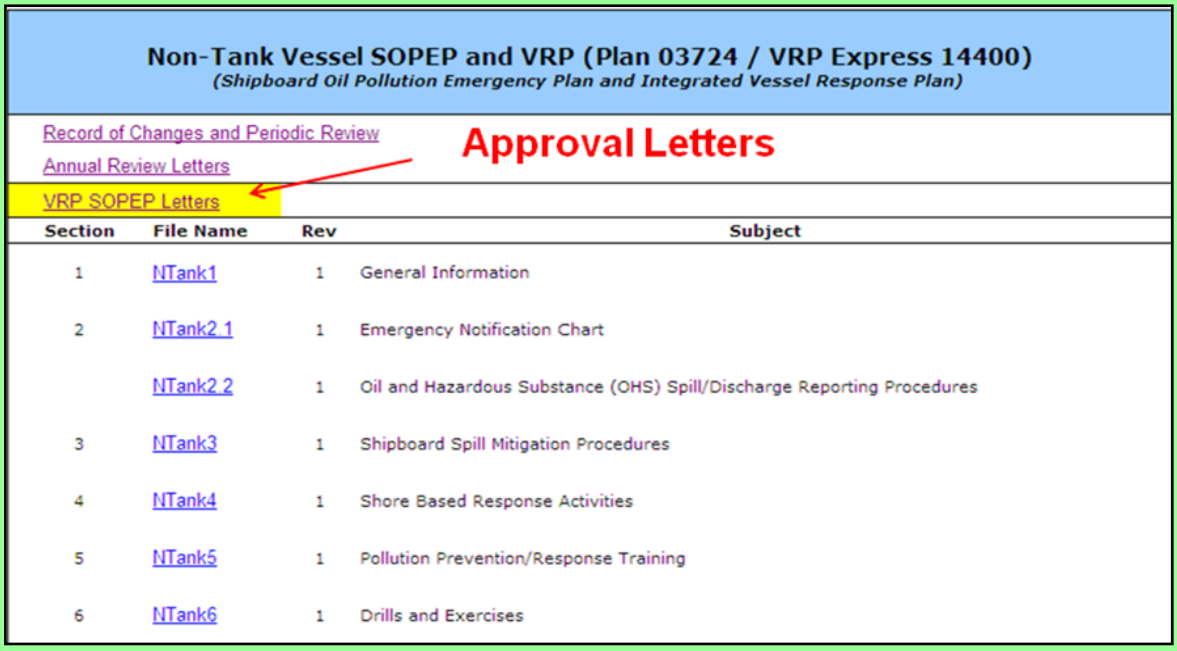
- -Vessels Carrying Oil as Primary Cargo- Interim Operating Authorization (IOA) valid until August 21, 2011*
- -Vessels Carrying Oil as Secondary Cargo- valid for 5 years until June 15, 2016

Non-Tank Plan # 144400:

- - IOA letters are valid for 2 years until August 4, 2013 or until the final rule for Non-Tank Vessel Response Plans is promulgate, whichever comes first.

*USCG Vessel Response Plan Program, CG-5431, Issued IOA letters for all tank vessels that carry oil as primary cargo for 180 days and will be replaced by a VRP approval letter after a comprehensive review for compliance with the salvage and marine fire fighting (SMFF) and Dispersant Regulations is completed by CG-5431. USCG Message: DTG R 042562 FEB 11.

The approved plans have been replicated to the ships in accordance with MSC's Document Library replication process. They are listed in the MSC's Document Library, under Programs; Environmental Index; TANK & NON-TANK SOPEP/VRP Indexes.



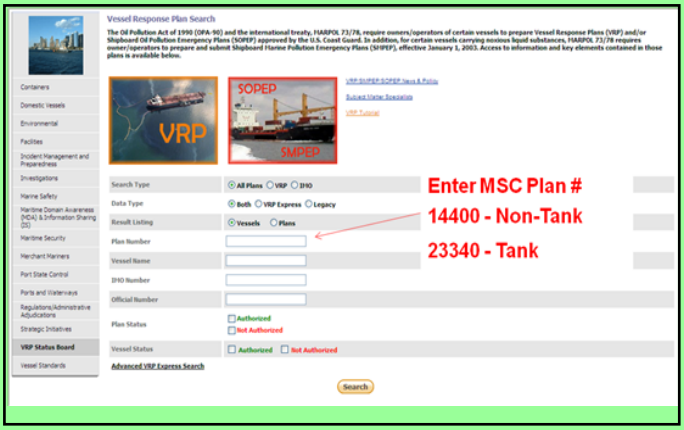
The following page is a how to guide to locating MSC vessel's approval letters via USCG Homeport. The original plan numbers are still associated and attached to the new plan and can be used to search for the plan.

http://homeport.uscg.mil

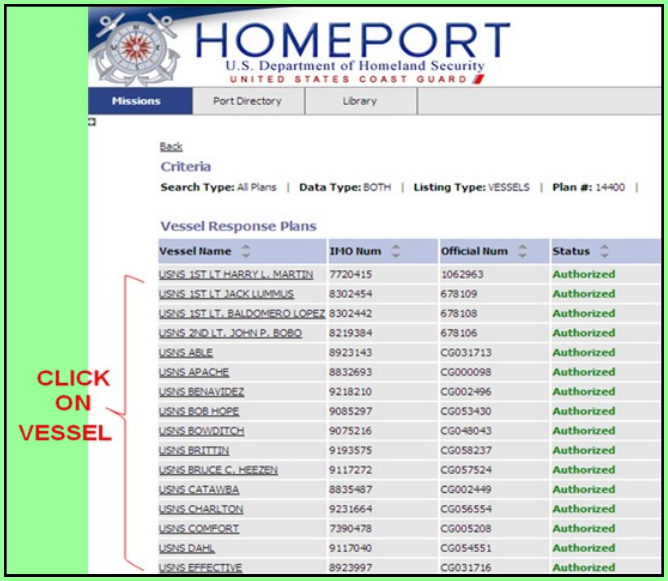
Click on (VRP Status Board) located on the left hand side, second from the bottom.

Environmental

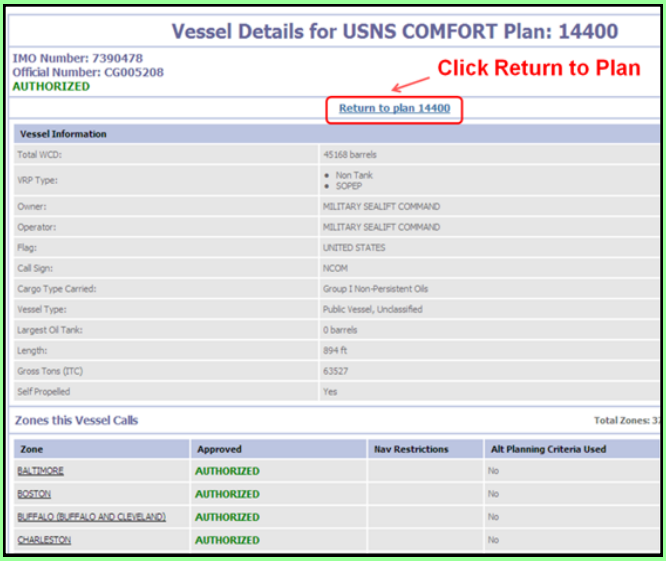
Step 1: Enter Military Sealift Command Plan Number:
Type: 14400 for Non-Tank Plan



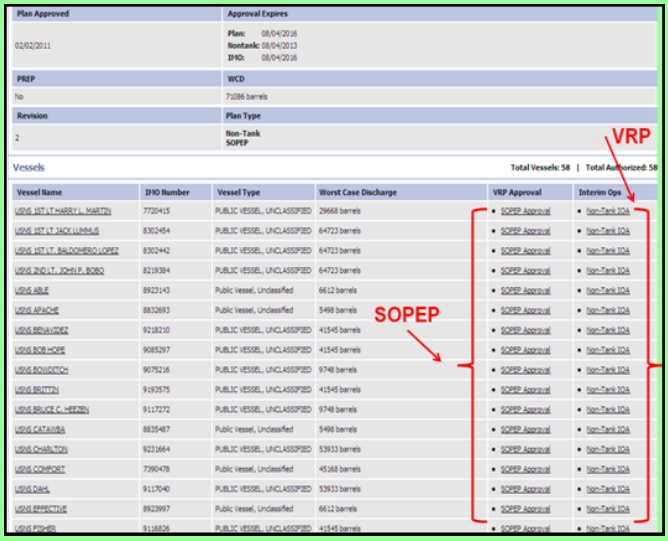
Step 2: Select Vessel Name



Step 3: Click Return to Plan



Step 4: Download and Print SOPEP and VRP



Step 5: Place SOPEP and VRP Letter in front of Official Plan Binder.

Safety Statistics for 1st Half FY 2011

The table below displays Class C incidents, first aid cases, and near misses for the first half of FY 2011. Our MSC fleet has had zero class A incidents, zero class B incidents, 129 first aid cases, and reported 14 near misses during the first half of FY 2011. Compared to last year, Class C mishaps are on the rise. 60 class C mishaps in a 6 month period is high. Take the time before jobs to identify hazards. Try to visualize how a slip, trip, or fall could possibly occur and take steps to prevent it. Identify what could contact you during the job and adjust to avoid it.

So far this year we have avoided major injuries, but more attention has to be paid to everyday tasks. The majority of our injuries are occurring during normal operations. Maintaining your focus and looking out for hazards during everyday operations will make everyone safer.

TAKE THE TIME TO BE SAFE!!

Near Miss Incidents: 14

Slips/Trips/Falls-0	Fires - 6	Mat. Damage - 0	Collisions - 2	Spill - 0
Equipment failure - 3	Inhale - 1	Contact - 2	Electrical - 0	

First Aid Incidents: 129

Slips/Trips/Falls - 44	Debris in eye - 11	Exertion - 13	Equip Fail - 0
Lifting /Back Injury - 10	Cuts/Knife - 8	Chipping - 4	PMV - 1
Contact - 24	Pulling - 0	Repetition - 1	Electrical - 1
Pinch Points - 10	Burn - 1	Fire - 0	Other - 1

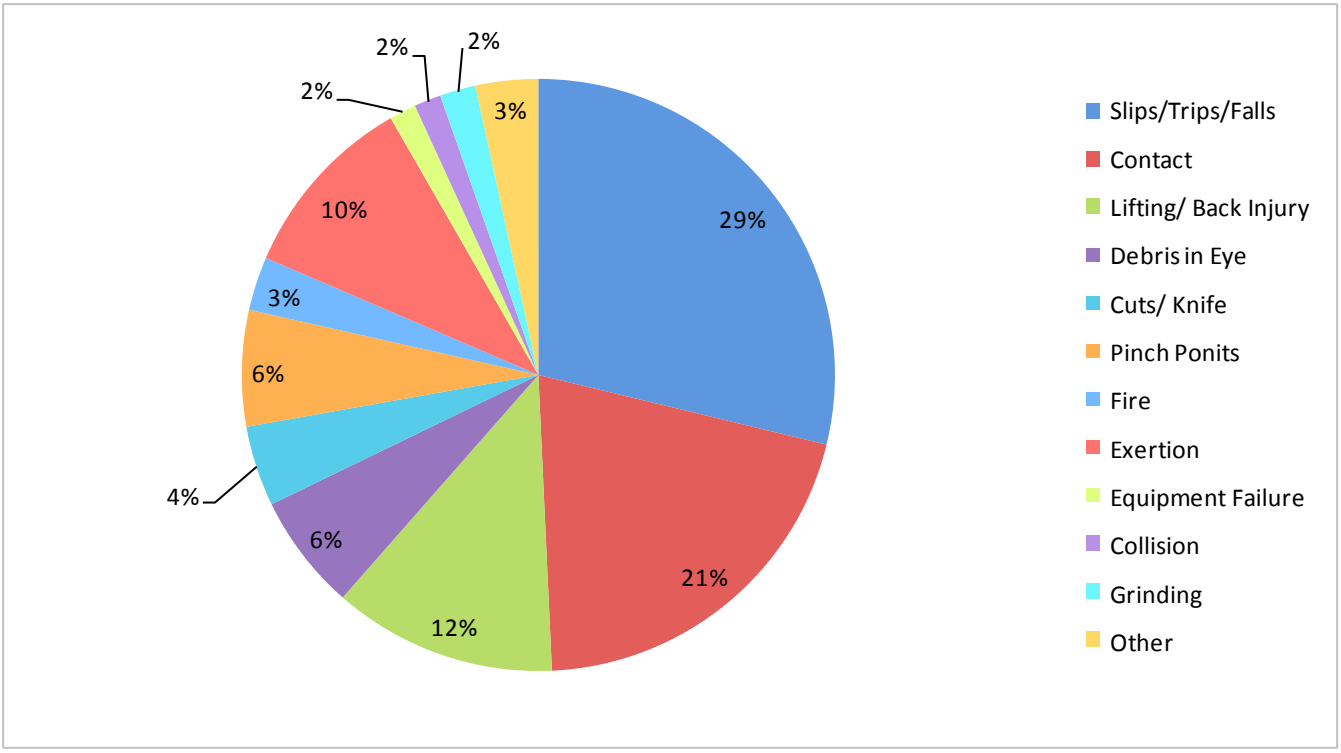
Class C Incidents : 60

Slips/Trips/Falls - 15	Chipping - 0	Burn - 0	Fire - 0	Exertion - 8
Lifting /Back Injury - 15	Collision - 1	PMV - 0	Pinch point - 3	Equip Fail - 0
Contact - 14	Electric - 0	Cut - 1	Debris - 2	Exposure - 1

Totals Incidents: 203

Slips/Trips/Falls - 59	Debris in Eye - 13	Exertion - 21	Equip Fail - 3
Lifting /Back Injury - 25	Cuts/Knife - 9	Chipping - 4	PMV - 1
Contact - 40	Pulling - 0	Repetition - 1	Electrical - 1
Pinch Points - 13	Burn - 1	Fire - 6	Other - 3
Collision - 3			

First Half FY2011 Class C Mishaps, First Aid Cases, and Near Misses



The above pie chart shows the Class C, near miss and first aid cases for the first half of FY2011. Slips, Trips, and Falls, Contact, and Lifting incidents continue to account for over half of MSC's incidents. The percentage of Slips, Trips, and Falls and Contact injuries is slightly higher than last year and the percentage of lifting injuries is slightly down from last year.

The best ideas for improving safety come from the fleet. Got an idea to help prevent injuries? Please send it to the safety mailbox (MSCHQ_Safety@navy.mil) and we will share it with the fleet.

United States Coast Guard
U.S. Department of Homeland Security

CG-5431
Office of Vessel Activities
Domestic Compliance Division

MI Notice 02-11
MAY 06, 2011

Marine Inspection Notice

HIGH VOLTAGE SHORE POWER INSTALLATIONS ON U.S. FLAG SHIPS

Ref: (a) 46 CFR Subchapter J

(b) IEC/ISO/IEEE Draft International Standard (DIS) 80005-1: Cold Ironing Part 1: High voltage shore connection system

1. Many vessels are increasingly required to shut down their ship's service generator engines in port and receive electrical power from shore, most often to comply with state or local environmental air quality regulations. Because of the vessel's large power requirements, the most practical way of receiving shore power is via high voltage, which reduces the number of power cables required for a given power level.

2. Ref (a), the electrical engineering regulations applicable to most large vessels, do not contain specific requirements for high voltage shore power systems.

3. Ref (b) is a draft standard for high voltage shore power systems being developed by the shipping industry, port authorities, classification societies, regulatory agencies, and electrical equipment and cable manufacturers, among others. U.S. Coast Guard Headquarters Systems Engineering Division (CG-5213) has also participated in the development of this document. It is likely that Ref (b) will serve in the future as a baseline reference for USCG high voltage shore power policy and regulations.

4. High-voltage installations have been successfully implemented on foreign flag vessels receiving shore power operating in major U.S. ports for 6-10 years. Typically these vessels will receive 6,600 or 11,000 volts from a shore side transformer via two or more power cables. There may be an additional step-down transformer on board the vessel to bring the voltage to the nominal vessel voltage (typically 450-480 volts).

5. Shore side port facility electrical installations are built to the code of the local jurisdiction, which typically adopts the National Electrical Code (NEC) versus a specific marine electrical or USCG standard. However, because the shore and ship systems are integrated and in fact operating in parallel for a short time during power transfer, **it is important that both the shore and ship sides be tested separately, prior to connection**, **and then tested as an integrated system**. This testing is essential to help identify any procedural or engineering issues. USCG personnel should be involved from both the technical review of the plans to the actual testing of the assembled system.

6. Based on the plan review requirements of 46 CFR 110.25 and the guidelines in Ref (b), in the interest of personnel safety both on the vessel and ashore, the local OCMI should work with vessel operators to ensure that the following steps are taken **prior** to high voltage shore connection (HVSC) testing:

a) Plans for the required electrical modifications have been reviewed by the Marine Safety Center. Class societies may also review, but their involvement will likely be limited to the ship installation. Additionally, although class societies have participated in development of Ref (b), they do not yet have well defined HVSC Rules. The plans should include, at a minimum, the following:

- Diagrams of the system from the shore side to the ship's main switchboard, showing cable, plug, and transformer arrangement and connections;
- Ratings of protective elements of any new shipboard transformer and switchgear;
- Details of shore side protection devices;
- Design standard and rating of power cables;
- Design details of bonding and grounding systems;
- Calculation for sizing of high resistance ground;
- Verification that the fault current available from the shore power connection will not exceed the rating of the shipboard switchgear; and,
- Synchronization with shore power should be possible with only one of the ship service generators on line.

The vessel should have a shore power operations manual that defines each step and requires a sign off verification of the connection, power transfer, and disconnection procedures.

A person in charge (PIC) should be designated for the vessel, and the communications protocol between ship and shore must be defined and understood by both parties

Any personnel scheduled to participate in the connection should be briefed on high voltage safety prior to the operation.

Once connections are made, personnel access to energized plugs and receptacles should be prevented. Spaces that require no personnel access during normal operation should be locked. Other spaces that require access may be locked, or a combination of barriers and signs may be implemented to keep out non-essential personnel.

Shore power cable and cable wheel should be protected and a warning sign for all personnel, e.g. CAUTION HIGH VOLTAGE POWER, should be provided in the vicinity of the cable.

Means should be provided to monitor and allow safe shore power cable tension due to the movement of the ship.

Questions concerning this notice may be directed to Office of Vessel Activities, Domestic Compliance Division (CG-5431) at CG5431@uscg.mil or (202) 372-1224 or the Office of Design & Engineering Standards, Systems Engineering Division (CG-5213) at (202) 372-1383.

Namesake Section

T-AE-32 USNS FLINT (AE-32/T-AE-32) is a *Kilauea*-class ammunition ship of the United States Navy, and was named after the sparking rock flint (not, as is commonly thought, the the city of Flint, Michigan). FLINT was constructed at the Ingalls Nuclear Shipbuilding Division, in Pascagoula, Mississippi. The ship was delivered to the United States Navy at Charleston, South Carolina, on 30 August 1971. On August 4, 1995, FLINT was turned over to MSC Pacific to commence an extensive habitability conversion at NORSHIPCO, Norfolk, VA. As a United States Naval Ship (USNS), FLINT is "in service", not commissioned. On March 24, 1997, USNS FLINT commenced ammunition operations in the Pacific. Today she is the last AE class vessel still active.

T-AO-196 KANAWHA is named after the Kanawha River a tributary of the Ohio River, approximately 97 mi (156 km) long, in the U.S. state of West Virginia. USNS KANAWHA, the tenth Henry J. Kaiser-class ship, was built by the Sun Shipbuilding and Dry Dock Company in Chester, Pennsylvania, on 13 July 1989. She was launched on 22 September 1990 and delivered to the U.S. Navy and placed in non-commissioned service with the Military Sealift Command on 6 December 1991.

USS FRANK CABLE AS-40 is named in honor of **FRANK TAYLOR CABLE** (1863-1945) who was an early pioneer in submarine development. Cable was a qualified electrician and employee of the Electro-Dynamic Company owned by financier Isaac Rice. Rice was a financial supporter of inventor John Phillip Holland whose Holland Torpedo Boat Company was developing a prototype submarine, HOLLAND VI, for the United States Navy. When HOLLAND VI sank in New York harbor on 13 October 1897, Cable was dispatched by Rice to assist with the repairs. The submarine's internal components had been flooded with salt water, leading to short circuits and corrosion. Cable had previously specialized in the design and production of propulsion machinery, including diesel engines and electric motors and was able to coordinate repair work and restore the submarine's operations. Cable was retained as an electrician at Holland's company and made a number of changes to the submarine design. A key proposal of Cable's was to improve the submarine's handling by relocating the rudder and stern diving planes aft of the propeller. The proposal was accepted, and by 4 July 1898, Holland VI was ready for sea trials. Cable was chosen as the civilian trial captain and successfully commanded the vessel during its early operations. The craft was officially commissioned into U. S. Navy service on 12 October 1900. Cable became a co-founder of the Electric Boat Company, the primary manufacturer of United States submarines in the early twentieth century, and worked for Electric Boat for nearly 45 years.

Recent Incidents

Mariner was walking down a ladder from main deck when she slipped and sprained her shoulder in an effort to slow down the fall.

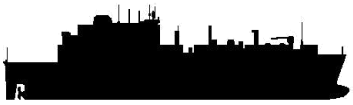
Causal Factors – slipping on stairs

Lessons Learned – When descending stairs keep one hand on the railing above you in order to catch yourself prior to starting a fall.

CIVMAR was operating a portable electric drill when the drill bit locked-up. The drill twisted the CIVMARs wrist slamming his hand into a steel beam which resulted in a fractured finger.

Causal Factors – Hand contacting steel beam

Lessons Learned – Identify potential injuries prior to starting a job and mitigate potential hazards when possible.



Mariner was moving a Man-lift on the pier when he hit the wrong control lever causing the man-lift to swerve and hit a parking barrier. Mariner cut his leg on the console.

Causal Factors – Incorrect operation of controls

Lessons Learned – Moving man-lifts is dangerous and should be done at very slow speeds.

During an UNREP operation a receiving ship was experiencing engine problems. An emergency breakaway was initiated.

Causal Factors – No casualty or injuries occurred because of excellent communications.

Lessons Learned – Emergency breakaways drills were practiced and helped prevent a mishap.

Ship's whistle was sounded while mariner was working on a kingpost.

Causal Factors – load noise in close proximate

Lessons Learned – When working aloft proper precautions should be taken to lockout/ tagout equipment which could be harmful to persons aloft.

Controls for crane were accidentally operated when crane was believed to be turned off.

Causal Factors – Improper securing of the crane

Lessons Learned – When securing equipment ensure everything is turned off. If possible test equipment prior to leaving controls to ensure it is secured.

Readiness Through Safety !

This Date in History

04 August 1914 – **ENDURANCE** was commanded by Sir Ernest Shackleton and sailed from Plymouth, England on a course for Buenos Aires, Argentina. On October 26 ENDURANCE sailed from Buenos Aires to the island of South Georgia off the southern tip of South America where she arrived on November 5. She departed from South Georgia for her final voyage on December 5 towards the southern regions of the Weddell Sea. Two days after leaving from South Georgia, ENDURANCE encountered polar pack ice and progress slowed down. For weeks ENDURANCE twisted and squirmed her way through the pack. On January 18, ENDURANCE was one day short of her destination. The ship was soon engulfed by thick but soft ice floes. The ship was beset. By January 24, 1915, the wind had completely compressed the ice in the whole Weddell Sea against the land. The ice had packed snugly around ENDURANCE. The ice kept compressing it until ENDURANCE could not endure the pressure and was crushed on October 27, 1915. She finally sank on November 21, 1915. All the crew members survived.

19 June 1944 - **TAIHO** was a Japanese aircraft carrier of the Imperial Japanese Navy during World War II. With a heavily armored hull and flight deck (a first for any Japanese carrier), she represented a major departure in Japanese carrier design and was expected to not only survive multiple bomb, torpedo or shell hits but also continue fighting effectively. TAIHO was sunk by a single torpedo hit from the American submarine USS ALBACORE in the Battle of the Philippine Sea.

25 July 1956 - **ANDREA DORIA** was approaching the coast of Nantucket, Massachusetts, bound for New York City, when she collided with the east-bound MS STOCKHOLM of the Swedish American Line. Struck in the side, the top-heavy ANDRIA DORIA immediately started to list severely to starboard, which left half of her lifeboats unusable. The starboard list resulted in a shortage of lifeboats and could have caused a significant loss of life, but the efficiency of technical design of the ship which allowed the ship to stay afloat for over 11 hours after the ramming, the good behavior of the crew, the improvements in communications, and the rapid responses by other ships averted a disaster similar in scale to that of the Titanic in 1912. 1660 passengers and crew were rescued and survived, while 46 people died as a result of the collision. Largely because of an out-of-court settlement agreement between the two shipping companies during hearings immediately after the disaster, no determination of the cause(s) was ever formally published.

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